

Claims:

receiver that combines a decoder with an equalizer that selects a trellis transition, s, that minimizes the metric

$$\xi_{j}(k) = \left| r(k) - \sum_{l=L_{1}+1}^{L_{1}} \hat{h}_{j}(l) \tilde{s}(k-l) - \sum_{l=L_{1}+1}^{L+1} \tilde{h}_{j}(l) \hat{s}(k-l) \right|^{2}$$

where r(k) is a signal received by said receiver at time k,  $\tilde{h}_j(l)$  is related to both the transmission channel and to the encoding structure in the transmitter,  $\tilde{s}(k)$  is a trial symbols specified by a selected trellis transition and  $\hat{s}(k)$  is a symbols that was previously decided.

